

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1(pending, original): A mounting device for interposing along a line of juncture between a
5 pair of relatively movable and relatively stationary objects, to support the relatively movable
object on the relatively stationary object at a selected angular orientation of the line of juncture
with respect to one of the objects, comprising:

means for forming a first coupling member on a first of the objects and a base on a
second of the objects at spaced first and second loci, respectively, adjacent opposite ends of the
10 line of juncture,

a split arm assembly comprising a pair of relatively rigid arm sections which are adapted
to be operatively juxtaposed to one another along the line of juncture between the spaced loci of
the first coupling member and the base, and have pairs of corresponding first and second end
portions thereof which are operatively opposed to one another across a plane coincident with the
15 line of juncture, so as to be disposed adjacent the first coupling member and the base,
respectively,

clamping means for squeezing the pair of arm sections together relatively crosswise the
plane of the line of juncture,

means for producing a differential in the reaction of the respective pairs of first and
20 second end portions of the arm sections to the squeezing action of the clamping means, so that
when squeezed together, the pair of arm sections forms a bifurcated arm assembly that in a first
position thereof, has its apex at the first locus of the first coupling member and is loosely
engaged about the base at the second end portions thereof,

means forming a pair of operatively opposing first sockets in the first end portions of the
25 respective arm sections having substantially smooth part spherical surfaces at the inner
peripheries thereof which substantially coincide with a circle of revolution that has its center at
the first locus of the first coupling member when the bifurcated arm assembly is engaged in the
first position thereof about the first coupling member,

the first coupling member having a substantially smooth part spherical surface thereon which forms the outer periphery thereof and substantially coincides with the circle of revolution, so that the pair of first sockets and the first coupling member form a relatively rotatable ball and socket joint in the first position of the bifurcated arm assembly,

5 the clamping means being operable in the first position of the bifurcated arm assembly to squeeze the pair of arm sections further together relatively crosswise the plane of the line of juncture and to a second position of the bifurcated arm assembly in which the inner peripheral surfaces of the first sockets assume a disposition relatively radially within the circle of revolution, and the first coupling member being sufficiently radially compressible at the outer
10 peripheral surface thereof that between the first and second positions of the bifurcated arm assembly, the inner peripheral surfaces of the first sockets can deform the surface of the first coupling member to interlock the bifurcated arm assembly with the first coupling member and vice versa at a selected angular orientation of the line of juncture with respect to the one object, and

15 means for producing a differential in the reaction of the respective pairs of first and second end portions of the arm sections to the further squeezing action of the clamping means, so that when squeezed further together into the second position of the bifurcated arm assembly, the pair of arm sections pivots relatively toward one another about the first coupling member to seize the base and rigidly interconnect the bifurcated arm assembly with the base at the selected
20 angular orientation of the line of juncture with respect to the one object.

Claim 2 (pending, original): The mounting device according to claim 1 wherein the clamping means are releasable and when the clamping means are released, the pair of arm sections is reciprocable in relation to one another to a third position of the bifurcated arm assembly in which the pair of arm sections is sufficiently spaced apart about the first locus of the first coupling
25 member that the first coupling member is detachable from the bifurcated arm assembly and vice versa.

Claim 3 (pending, original): The mounting device according to claim 2 wherein the base takes the form of a second coupling member having a substantially smooth part spherical outer peripheral surface thereon, the second coupling member is also compressible radially thereof at

the outer peripheral surface thereof, and the mounting device further comprises means forming a pair of operatively opposing second sockets in the second end portions of the pair of arm sections which have substantially smooth part spherical surfaces at the inner peripheries thereof that are rotatably engageable with the second coupling member at the outer peripheral surface thereof in the respective positions of the bifurcated arm assembly lying between the third and first positions thereof inclusive, and which progressively seize the second coupling member by compressing and deforming the outer peripheral surface thereof to interlock the bifurcated arm assembly with the second coupling member when the pair of arm sections is squeezed together in the direction of the second position of the bifurcated arm assembly from the first position thereof.

Claim 4 (pending, original): The mounting device according to claim 1 wherein the base and arm sections are adapted for rotation of the bifurcated arm assembly about the base and vice versa at the second locus of the base.

Claim 5 (pending, original): A mounting device for interposing along a line of juncture between a pair of relatively movable and relatively stationary objects, to support the relatively movable object on the relatively stationary object at a selected angular orientation of the line of juncture with respect to one of the objects, comprising:

means for forming a first coupling member on a first of the objects and a base on a second of the objects at spaced first and second loci, respectively, adjacent opposite ends of the line of juncture,

a split arm assembly comprising a pair of elongated relatively rigid arm sections which are operatively juxtaposed to one another along the line of juncture between the spaced first and second loci of the first coupling member and the base, and have pairs of corresponding first and second end portions thereof that are operatively opposed to one another across a plane coincident with the line of juncture,

the first coupling member having a body with part spherical surfaces at the outer periphery thereof that are disposed on opposite sides of the plane of the line of juncture to substantially coincide with a first circle of revolution having its center at the first locus of the first coupling member, and also having pressure deformable material therein so that the body of

the first coupling member can be squeezed between the surfaces thereof to less than the diameter of the first circle of revolution,

means forming a pair of operatively opposing first sockets in the pair of first end portions of the respective arm sections,

5 means for applying initial clamping forces to the pair of arm sections to squeeze the pair of arm sections together relatively crosswise the plane of the line of juncture,

means for producing a differential in the reaction of the respective pairs of first and second end portions of the arm sections to the initial clamping forces so that when squeezed together, the pair of arm sections assumes a relatively transversely contracted disposition thereof about the first coupling member and the base in which the pair of first sockets in the pair of first end portions is operatively engaged about the outer peripheral surfaces of the first coupling member in substantial coincidence with the first circle of revolution, but the pair of second end portions is spaced apart from one another about the base to the extent that although the pair of arm sections forms a connection between the first coupling member and the base, the connection
10 allows the pair of arm sections to be squeezed further together about the base,

the pair of first sockets being adapted to form a first ball and socket joint with the outer peripheral surfaces of the first coupling member when the pair of arm sections assumes the relatively transversely contracted disposition thereof about the first coupling member and the base, so that the first coupling member and the pair of arm sections can be pivoted in relation to one another at the first joint to position the line of juncture at a selected angular orientation with respect to the one object,
20

means for applying additional clamping forces to the pair of arm sections to squeeze the pair of arm sections further together

relatively crosswise the plane of the line of juncture when the pair of arm sections is in the relatively transversely contracted disposition thereof about the first coupling member and the base, and
25

means for producing a differential in the reaction of the respective pairs of first and second end portions of the arm sections to the additional clamping forces so that when squeezed further together in the relatively transversely contracted disposition thereof, the pair of arm sections pivots in relation to one another about the first coupling member to reduce the space
30

between the second end portions of the respective arm sections about the base while the pair of first sockets engages the outer peripheral surfaces of the body of the first coupling member to squeeze the body therebetween and interlock the pair of arm sections with the first coupling member to rigidify the connection between the first coupling member and the base at the
5 selected angular orientation of the line of juncture with respect to the one object.

Claim 6 (pending, original): The mounting device according to claim 5 wherein the first coupling member is formed of nitrile rubber material at the surface thereof.

Claim 7 (pending, original): The mounting device according to claim 5 wherein the pair of arm sections is adapted to extend rectilinearly between the spaced first and second loci of the first
10 coupling member and the base.

Claim 8 (pending, original): The mounting device according to claim 5 wherein the means for forming the first coupling member and the base are elements physically separate and distinct from the objects themselves but attachable thereto.

Claim 9 (pending, original): The mounting device according to claim 5 wherein the split arm
15 assembly is physically separate and distinct from the means for forming each of the first coupling member and the base.

Claim 10 (pending, original): The mounting device according to claim 5 wherein the split arm assembly is physically separate and distinct from the base.

Claim 11 (pending, original): The mounting device according to claim 5 wherein the pressure
20 deformable material is resilient and the means for applying additional clamping forces to the pair of arms sections are releasable relatively crosswise the plane of the line of juncture to restore the first joint so that the pair of arm sections and the first coupling member can be pivoted in relation to one another to position the line of juncture at a different angular orientation with respect to the one object.

25 Claim 12 (pending, original): The mounting device according to claim 5 wherein the base has attachment means thereon for forming the connection between the first coupling member and the

base, and the arm sections are operatively juxtaposed about the plane of the line of juncture so that when the pair of arms sections is squeezed together by the initial clamping forces to assume the relatively transversely contracted disposition thereof, the second end portions of the pair of arm sections are reciprocated in relation to one another about the base to first positions thereof in which the pair of second end portions is mutually opposed to one another across the plane and the attachment means form a connection between the first coupling member and the base, but the pair of second end portions is sufficiently spaced apart from one another in the connection that the connection allows the pair of arm sections to be squeezed further together about the base.

Claim 13 (pending, original): The mounting device according to claim 12 wherein the attachment means are operatively interposed between the pair of second end portions in the connection but adapted so that the respective second end portions of the arm sections are spaced apart from the attachment means when the second end portions assume the first positions thereof in the relative reciprocation thereof, and the device further comprises means operatively interposed between the attachment means and the respective second end portions to loosely interconnect the attachment means with the pair of second end portions and vice versa when the second end portions assume the first positions thereof in the relative reciprocation thereof.

Claim 14 (pending, original): The mounting device according to claim 13 wherein the attachment means include a second coupling member having a body with part spherical surfaces at the outer periphery thereof that are disposed on opposite sides of the plane of the line of juncture to substantially coincide with a second circle of revolution having its center at a point between the first positions of the second end portions of the arm sections in the relative reciprocation thereof, and the device further comprises means forming a pair of operatively opposing second sockets in the pair of second end portions of the respective arm sections, which engage about the outer peripheral surfaces of the second coupling member in a third circle of revolution concentric with the second circle of revolution but having a greater diameter than the second circle of revolution so that when the second end portions of the arm sections assume the first positions thereof in the relative reciprocation thereof, the body of the second coupling member and the respective second end portions of the arm sections are loosely interconnected

with one another but spaced apart from one another by the differential between the diameters of the second and third circles of revolution.

Claim 15 (pending, original): The mounting device according to claim 14 wherein the body of the second coupling member has pressure deformable material therein so that the body of the second coupling member can be squeezed between the surfaces thereof to less than the diameter of the second circle of revolution, and the arm sections are operatively juxtaposed about the plane of the line of juncture so that when the pair of arm sections is squeezed further together by the additional clamping forces, the second end portions of the pair of arm sections are reciprocated in relation to one another about the base to second positions thereof mutually opposed to one another across the plane of the line of juncture and in which the pair of second sockets forms a second ball and socket joint with the outer peripheral surfaces of the second coupling member, so that the second coupling member and the pair of arm sections can be pivoted in relation to one another at the second joint to also position the line of juncture at a selected angular orientation with respect to the other object if desired, and then to third positions thereof mutually opposed to one another across the plane of the line of juncture in which the pair of second sockets engages the outer peripheral surfaces of the body of the second coupling member to squeeze the body therebetween and interlock the pair of arm sections with the second coupling member to rigidify the connection between the respective first and second coupling members at the selected angular orientation of the line of juncture with respect to each of the objects.

Claim 16 (pending, original): The mounting device according to claim 15 wherein the pressure deformable material in the bodies of the respective first and second coupling members is resilient and the means for applying additional clamping forces to the pair of arm sections are releasable relatively crosswise the plane of the line of juncture to restore the first and second joints so that the pair of arm sections can be pivoted in relation to the respective first and second coupling members and vice versa, to position the line of juncture at different angular orientations with respect to the one and/or the other objects.

Claim 17 (pending, original): The mounting device according to claim 16 wherein the differential producing means include yieldable biasing means and the space between the first and

second loci of the first coupling member and the base respectively is of such length that when the second coupling member is detached from the split arm assembly and vice versa, the pair of arm sections can be pinched together against the bias of the biasing means to separate the pair of first sockets from one another to the extent that the first coupling member can be detached from
5 the pair of arm sections and vice versa.

Claim 18 (pending, original): The mounting device according to claim 5 wherein the means for producing a differential in the reaction of the respective pairs of first and second end portions of the arm sections to the initial clamping forces include means operable to generate a lop-sided effect in the application of the initial clamping forces to the respective pairs of first and second
10 end portions of the arm sections when the pair of arm sections is squeezed together to assume the relatively transversely contracted disposition thereof.

Claim 19 (pending, original): The mounting device according to claim 5 wherein the base has attachment means thereon for forming the connection between the first coupling member and the base, and the attachment means and the first coupling member have means operatively
15 interposed therebetween to generate a lop-sided effect in the application of the initial clamping forces to the respective pairs of first and second end portions of the arm sections when the pair of arm sections is squeezed together to assume the relatively transversely contracted disposition thereof.

Claim 20 (pending, original): The mounting device according to claim 19 wherein the
20 attachment means include a second coupling member having a body with part spherical surfaces at the outer periphery thereof that are disposed on opposite sides of the plane of the line of juncture to substantially coincide with a second circle of revolution having its center at a point interposed between the second end portions of the arm sections when the pair of arm sections is squeezed together to assume the relatively transversely contracted disposition thereof, the first
25 and second circles of revolution have substantially equal diameters, and the means for generating a lop-sided effect in the application of the initial clamping forces to the respective first and second end portions of the arm sections include yieldable biasing means disposed to oppose the application of the initial clamping forces to the second end portions of the respective arm sections.

Claim 21 (pending, original): The mounting device according to claim 20 wherein the yieldable biasing means are interposed across the plane of the line of juncture between the first and second coupling members.

5 Claim 22 (pending, original): The mounting device according to claim 21 wherein the initial clamping forces are applied to the pair of arm sections along a line interposed across the plane of the line of juncture between the yieldable biasing means and the first coupling member.

Claim 23 (pending, original): The mounting device according to claim 22 wherein the yieldable biasing means take the form of a coiled spring which is caged between the pair of arm sections along a line interposed across the plane of the line of juncture substantially parallel to the line of
10 application of the initial clamping forces.

Claim 24 (pending, original): The mounting device according to claim 20 wherein the arm sections are operatively juxtaposed about the plane of the line of juncture so that when the pair of arm sections is squeezed together by the initial clamping forces, the second end portions of the pair of arm sections are reciprocated against the bias of the yieldable biasing means to
15 positions mutually opposed to one another across the plane and in which the second coupling member forms a connection between the first coupling member and the base, but the pair of second end portions is sufficiently spaced apart from one another in the connection that the connection allows the pair of arm sections to be squeezed further together about the base.

Claim 25 (pending, original): The mounting device according to claim 20 wherein the space
20 between the first and second loci of the first coupling member and the base respectively, is of such length that when the second coupling member is detached from the split arm assembly and vice versa, the pair of arm sections can be pinched together against the bias of the biasing means to separate the first end portions of the arm sections from one another to the extent that the first coupling member can be detached from the pair of arm sections and vice versa.

25 Claim 26 (pending, original): The mounting device according to claim 5 wherein the pressure deformable material renders the body of the first coupling member radially compressible at the outer peripheral surfaces thereof.

Claim 27 (pending, original): The mounting device according to claim 5 wherein the first sockets have surfaces at the inner peripheries thereof which are adapted to form the first ball and socket joint with the outer peripheral surfaces of the first coupling member when the pair of arm sections assumes the relatively transversely contracted disposition thereof about the first
5 coupling member and the base.

Claim 28 (pending, original): The mounting device according to claim 27 wherein the pressure deformable material renders the body of the first coupling member radially compressible at the outer peripheral surfaces thereof, and the inner peripheral surfaces of the first sockets are part spherical and adapted to substantially coincide with the first circle of revolution when the pair of
10 arm sections assumes the relatively transversely contracted disposition thereof about the first coupling member and the base so that the first joint is formed between the respective inner and outer peripheral surfaces of the first sockets and the first coupling member, and then to compress the body of the first coupling member radially thereof at the outer peripheral surfaces thereof when the pair of arm sections is squeezed further together in the relatively transversely
15 contracted disposition thereof to interlock the pair of arm sections with the first coupling member and rigidify the connection between the first coupling member and the base at the selected angular orientation of the line of juncture with respect to the one object.

Claim 29 (pending, original): The mounting device according to claim 5 wherein the respective means for applying the initial clamping forces and the additional clamping forces to the pair of
20 arm sections include a pin and hole fastening device for fastening the pair of arm sections together relatively crosswise the plane of the line of juncture, and a clamping mechanism on the fastening device for applying clamping forces to the pair of arm sections through the fastening device.

Claim 30 (pending, original): A mounting device for interposing along a line of juncture between
25 a pair of relatively movable and relatively stationary objects, to support the relatively movable object on the relatively stationary object at varying angular orientations of the line of juncture with respect to one of the objects, comprising:

means for forming a first coupling member on a first of the objects and a base on a second of the objects at spaced first and second loci, respectively, adjacent opposite ends of the line of juncture,

5 a split arm assembly comprising a pair of relatively rigid arm sections which are adapted to be operatively juxtaposed to one another along the line of juncture between the spaced first and second loci of the first coupling member and the base, and have faces thereon which are operatively opposed to one another across a plane coincident with the line of juncture,

releasable clamping means for reciprocating the pair of arm sections in relation to one another relatively crosswise the plane of the line of juncture to form the split arm assembly into a
10 bifurcated arm assembly which has its apex at the second locus of the base and is engaged about the first coupling member,

means forming a pair of operatively opposing first sockets in the faces of the respective arm sections having substantially smooth part spherical surfaces at the inner peripheries thereof which substantially coincide with a circle of revolution that has its center at the first locus of the
15 first coupling member when the bifurcated arm assembly is engaged in a first position thereof about the first coupling member,

the first coupling member having a substantially smooth part spherical surface thereon which forms the outer periphery thereof and substantially coincides with the circle of revolution, so that the pair of first sockets and the first coupling member form a relatively rotatable ball and
20 socket joint in the first position of the bifurcated arm assembly,

the clamping means being operable in the first position of the bifurcated arm assembly to reciprocate the pair of arm sections in relation to one another to a second position of the bifurcated arm assembly in which the first sockets assume a disposition relatively radially within the circle of revolution, and the first coupling member being sufficiently radially compressible at
25 the outer peripheral surface thereof that between the first and second positions of the bifurcated arm assembly, the inner peripheral surfaces of the pair of first sockets can deform the surface of the first coupling member to interlock the bifurcated arm assembly with the first coupling member and vice versa, but

the inner peripheral surfaces of the first sockets also being substantially smooth over
30 sufficient arcuate extent circumferentially of the outer peripheral surface of the first coupling

member and the first coupling member being sufficiently resilient at the surface thereof, that when the clamping means are released, the pair of first sockets and the first coupling member reform a relatively rotatable ball and socket joint at the first position of the bifurcated arm assembly, so that the bifurcated arm assembly can be rotated about the first coupling member to vary the angular orientation of the line of juncture with respect to the first coupling member, and wherein when the clamping means are released, the pair of arm sections are reciprocable in relation to one another to a third position of the bifurcated arm assembly in which the faces of the pair of arm sections are sufficiently spaced apart about the first locus of the first coupling member that the first coupling member is detachable from the bifurcated arm assembly and vice versa, and the base takes the form of a second coupling member having a substantially smooth part spherical surface thereon which forms the outer periphery thereof, the second coupling member is also compressible radially thereof at the outer peripheral surface thereof, and the mounting device further comprises means forming a pair of operatively opposing second sockets in the faces of the respective arm sections which have substantially smooth part spherical surfaces at the inner peripheries thereof that are rotatably engageable with the second coupling member at the outer peripheral surface thereof in the respective positions of the bifurcated arm assembly lying between the third and first positions thereof inclusive, and which progressively seize the second coupling member by compressing and deforming the surface thereof to interlock the bifurcated arm assembly with the second coupling member when the pair of arm sections are reciprocated in relation to one another in the direction of the second position of the bifurcated arm assembly from the first position thereof.

Claim 31 (pending, original): The mounting device according to claim 30 wherein the releasable clamping means include yieldable biasing means operable to space the pair of arm sections from one another at the faces thereof relatively crosswise the plane of the line of juncture, and a releasable clamping mechanism operable against the bias of the yieldable biasing means to reciprocate the pair of arm sections relatively toward one another at the faces of the arm sections, the yieldable biasing means and the clamping mechanism being engaged with the pair of arm sections in the space between the first and second loci of the first coupling member and the base, respectively, to form the split arm assembly into a bifurcated arm assembly which has its apex at

the second locus of the base when the pair of arm sections is reciprocated relatively toward one another at the faces thereof.

Claim 32 (pending, original): The mounting device according to claim 31 wherein the faces of the respective arm sections have recesses therein between the first and second loci of the first
5 coupling member and the base, and the yieldable biasing means take the form of a coiled spring which is caged between the respective arm sections at the recesses in the faces thereof.

Claim 33 (pending, original): The mounting device according to claim 32 wherein the space between the first and second loci of the first and second coupling members is of such length that when the first coupling member is detached from the bifurcated arm assembly and vice versa,
10 the arm sections can be pinched together against the bias of the spring to separate the pair of second sockets from one another to the extent that the second coupling member can be detached from the pair of arm sections and vice versa.

Claim 34 (pending, original): The mounting device according to claim 32 wherein the arm sections have a pair of mutually opposing openings therein at the bottoms of the recesses, and
15 the clamping mechanism takes the form of an elongated bolt which is passed through the pair of openings and has a flange on one end portion thereof and threading on the other end portion thereof, and a knob which is threadedly engaged with the threading on the other end portion of the bolt and cooperable with the flange on the bolt to clamp the pair of arm sections therebetween.

20 Claim 35 (pending, original): A mounting device for interposing along a line of juncture between a pair of relatively movable and relatively stationary objects, to support the relatively movable object on the relatively stationary object at varying angular orientations of the line of juncture with respect to one of the objects, comprising:

means for forming a first coupling member on a first of the objects and a base on a
25 second of the objects at spaced first and second loci, respectively adjacent opposite ends of the line of juncture,

a split arm assembly comprising a pair of relatively rigid arm sections which are adapted to be operatively juxtaposed to one another along the line of juncture between the spaced first

and second loci of the first coupling member and the base, and have faces thereon which are operatively opposed to one another across a plane coincident with the line of juncture,

releasable clamping means for reciprocating the pair of arm sections in relation to one another relatively crosswise the plane of the line of juncture to form the split arm assembly into a bifurcated arm assembly which has its apex at the second locus of the base and is engaged about the first coupling member,

means forming a pair of operatively opposing first sockets in the faces of the respective arm sections having substantially smooth part spherical surfaces at the inner peripheries thereof which substantially coincide with a circle of revolution that has its center at the first locus of the first coupling member when the bifurcated arm assembly is engaged in a first position thereof about the first coupling member,

the first coupling member having a substantially smooth part spherical surface thereon which forms the outer periphery thereof and substantially coincides with the circle of revolution, so that the pair of first sockets and the first coupling member form a relatively rotatable ball and socket joint in the first position of the bifurcated arm assembly,

the clamping means being operable in the first position of the bifurcated arm assembly to reciprocate the pair of arm sections in relation to one another to a second position of the bifurcated arm assembly in which the first sockets assume a disposition relatively radially within the circle of revolution, and the first coupling member being sufficiently radially compressible at the outer peripheral surface thereof that between the first and second positions of the bifurcated arm assembly, the inner peripheral surfaces of the pair of first sockets can deform the surface of the first coupling member to interlock the bifurcated arm assembly with the first coupling member and vice versa, but

the inner peripheral surfaces of the first sockets also being substantially smooth over sufficient arcuate extent circumferentially of the outer peripheral surface of the first coupling member and the first coupling member being sufficiently resilient at the surface thereof, that when the clamping means are released, the pair of first sockets and the first coupling member reform a relatively rotatable ball and socket joint at the first position of the bifurcated arm assembly, so that the bifurcated arm assembly can be rotated about the first coupling member to vary the angular orientation of the line of juncture with respect to the first coupling member, and

the first coupling member having a reduced diameter neck at a side thereof opposed to the part spherical outer peripheral surface thereof, and the first sockets having rims formed thereabout in the faces of the respective arm sections, and indentations in the respective rims thereof at the plane of the line of juncture, which together are greater in width than the neck so that the bifurcated arm assembly can be rotated about the locus of the first coupling member to angular orientations in which the line of juncture extends at right angles to the neck of the first coupling member.

Claim 36 (pending, original): The mounting device according to claim 35 wherein the respective arm sections have ends adjacent the first sockets, and the first sockets also have indentations in the respective rims thereof at the adjacent ends of the arm sections, which together are greater in width than the neck so that the bifurcated arm assembly can be rotated about the first locus of the first coupling member to angular orientations in which the plane of the line of juncture extends at oblique angles to the first coupling member.

Claim 37 (pending, original): A mounting device for interposing along a line of juncture between a pair of relatively movable and relatively stationary objects, to support the relatively movable object on the relatively stationary object at varying angular orientations of the line of juncture with respect to one of the objects, comprising:

means for forming a first coupling member on a first of the objects and a base on a second of the objects at spaced first and second loci, respectively, adjacent opposite ends of the line of juncture,

a split arm assembly comprising a pair of relatively rigid arm sections which are adapted to be operatively juxtaposed to one another along the line of juncture between the spaced first and second loci of the first coupling member and the base, and have faces thereon which are operatively opposed to one another across a plane coincident with the line of juncture,

releasable clamping means for reciprocating the pair of arm sections in relation to one another relatively crosswise the plane of the line of juncture to form the split arm assembly into a bifurcated arm assembly which has its apex at the second locus of the base and is engaged about the first coupling member,

means forming a pair of operatively opposing first sockets in the faces of the respective arm sections having substantially smooth part spherical surfaces at the inner peripheries thereof which substantially coincide with a circle of revolution that has its center at the first locus of the first coupling member when the bifurcated arm assembly is engaged in a first position thereof
5 about the first coupling member,

the first coupling member having a substantially smooth part spherical surface thereon which forms the outer periphery thereof and substantially coincides with the circle of revolution, so that the pair of first sockets and the first coupling member form a relatively rotatable ball and socket joint in the first position of the bifurcated arm assembly,

10 the clamping means being operable in the first position of the bifurcated arm assembly to reciprocate the pair of arm sections in relation to one another to a second position of the bifurcated arm assembly in which the first sockets assume a disposition relatively radially within the circle of revolution, and the first coupling member being sufficiently radially compressible at the outer peripheral surface thereof that between the first and second positions of the bifurcated
15 arm assembly, the inner peripheral surfaces of the pair of first sockets can deform the surface of the first coupling member to interlock the bifurcated arm assembly with the first coupling member and vice versa, but

the inner peripheral surfaces of the first sockets also being substantially smooth over sufficient arcuate extent circumferentially of the outer peripheral surface of the first coupling
20 member and the first coupling member being sufficiently resilient at the surface thereof, that when the clamping means are released, the pair of first sockets and the first coupling member reform a relatively rotatable ball and socket joint at the first position of the bifurcated arm assembly, so that the bifurcated arm assembly can be rotated about the first coupling member to vary the angular orientation of the line of juncture with respect to the first coupling member, and

25 the first sockets having rims formed thereabout at the faces of the respective arm sections and cruciate grooves at the inner peripheries thereof subdividing the part spherical surfaces thereof into four relatively smaller part spherical surfaces apiece, each of which terminates at the groove in the respective first socket and the rim thereabout.

Claim 38 (previously cancelled)

Claim 39 (previously cancelled)

Claim 40 (previously cancelled)

Claim 41 (previously cancelled)

Claim 42 (previously cancelled)

- 5 Claim 43 (pending, previously once amended): An interlocking ball and socket joint comprising:
 a coupling member partially formed of a resilient deformable material in a substantially
 smooth spherical shape having an unconstrained diameter and substantially encompassing a
 substantially rigid mechanical core adapted to accept a mechanical attachment outside the
 unconstrained diameter;
- 10 a socket having first substantially smooth and rigid opposing concave interior surfaces
 shaped to substantially conform to the substantially spherical portion of the coupling member,
 one of the smooth concave surfaces having an indentation formed therein; and
 an adjustable clamp disposed subsequently in a plurality of different adjustment
 relationships to the opposing concave socket surfaces,
- 15 one adjustment of the clamp conforming the first opposing interior socket
 surfaces in a relatively rotational relationship with the coupling member, wherein the opposing
 interior socket surfaces partially encompass a spherical volume having substantially the same
 diameter as the substantially spherical portion of the coupling member, whereby the socket and
 the coupling member are relatively rotatable, and
- 20 another adjustment of the clamp conforming the first opposing interior socket
 surfaces in an interlocking relationship with the coupling member, wherein the opposing interior
 socket surfaces partially encompass opposing spherical segments of the coupling member that
 are spaced apart a distance that, combined with a height of each of the opposing spherical
 segments, is less than the unconstrained diameter of the substantially spherical portion of the
25 coupling member, whereby the socket deforms the coupling member and interlocks the socket
 and the coupling member in a relative angular orientation.

Claim 44 (pending, previously once amended): The interlocking ball and socket joint of claim 43, further comprising:

a second coupling member partially formed of a resilient deformable material in a substantially globular shape having an unconstrained diameter and encompassing a mechanical
5 core having a projection extending outside the unconstrained diameter; and

a second socket adapted to accept a mechanical attachment and having second substantially opposing concave surfaces shaped to substantially conform to the substantially spherical portion of the second coupling member; and

wherein:

10 the adjustable clamp is further disposed subsequently in a plurality of adjustment relationships to the second opposing concave socket surfaces,

one adjustment of the clamp conforming the second opposing concave socket surfaces in a relatively rotational relationship with the second coupling member, wherein the second opposing concave socket surfaces partially encompass a second spherical volume having
15 substantially the same diameter as the globular portions of the second coupling member, whereby the second socket and the second coupling member are relatively rotatable, and

another adjustment of the clamp conforming the second opposing concave socket surfaces in an interlocking relationship with the second coupling member, wherein the second opposing concave socket surfaces partially encompass second opposing spherical segments of
20 the second coupling member that are spaced apart a second distance that, combined with a height of each of the second opposing spherical segments, is less than the unconstrained diameter of the globular portion of the second coupling member, whereby the second socket deforms the second coupling member and interlocks the second socket and the second coupling member in a second relative angular orientation.

25 Claim 45 (pending, previously presented): The interlocking ball and socket joint of claim 44, wherein the disposition of the adjustable clamp in a plurality of adjustment relationships to the first and second opposing concave socket surfaces further comprises disposition of the adjustable clamp in a plurality of different adjustment relationships to the first and second opposing
concave socket surfaces that apply differential clamping forces between the first and second
30 opposing concave socket surfaces.

Claim 46 (pending, previously presented): The interlocking ball and socket joint of claim 44, wherein one of the first and second opposing concave surfaces shaped to substantially conform to the globular portion of the coupling member further comprise concave surfaces formed with a radius substantially the same as the radius of the unconstrained diameter of the globular portion.

5 Claim 47 (previously cancelled)

Claim 48 (previously cancelled)

Claim 49 (previously cancelled)

Claim 50 (pending, previously once amended): An interlocking ball and socket joint comprising: a coupling member having a radially compressible material formed in a substantially spherical shape having an uncompressed outer diameter, the radially compressible material being formed around and rotationally fixed to a relatively rigid core having a projection extending outside of the unconstrained diameter;

a socket adapted to accept a mechanical attachment and comprising two or more substantially rigid socket members each having substantially smooth concave radial surfaces having radii substantially identical to the radius of the uncompressed outer diameter of the coupling member, the surfaces coextending with a portion of the uncompressed outer diameter of the spherical portion of the coupling member, one of the smooth concave surfaces having an indentation formed therein; and

an adjustable clamp mechanically attached to the socket members and subsequently positioning the socket members in a plurality of opposing relationships to one another,

one adjustment of the clamp positioning the socket members in a opposing relationship on either side of the coupling member and relatively rotatable thereto, and

another adjustment of the clamp positioning the socket members in a opposing relationship on either side of the coupling member and compressing the radially compressible material thereof, whereby the socket members substantially compress the coupling member and interlock the socket members with the coupling member in a relative angular orientation.

Claim 51 (pending, previously once amended): The interlocking ball and socket joint of claim 50, further comprising:

a second coupling member having a radially compressible material formed in a substantially spherical shape having a second uncompressed outer diameter and formed around a second relatively rigid core having a projection extending outside of the second unconstrained diameter;

- 5 a second socket adapted to accept a mechanical attachment and comprising two or more second substantially rigid socket members each having substantially smooth concave surfaces coextending with a portion of the second uncompressed outer diameter of the spherical portion of the second coupling member; and wherein:

- 10 the adjustable clamp is further mechanically attached to the second socket members and subsequently positioning the second socket members in a plurality of opposing relationships to one another,

a third adjustment of the clamp positioning the second socket members in a opposing relationship on either side of the second coupling member and relatively rotatable thereto, and

- 15 a fourth adjustment of the clamp positioning the second socket members in a opposing relationship on either side of the second coupling member and compressing the radially compressible material thereof, whereby the second socket members substantially compress the second coupling member and interlock the second socket members with the second coupling member in a relative angular orientation.

- 20 Claim 52 (previously cancelled)

Claim 53 (previously cancelled)

Claim 54 (previously cancelled)

Claim 55 (previously cancelled)

Claim 56 (previously cancelled)

- 25 Claim 57 (previously cancelled)

Claim 58 (pending, previously once amended): A method of forming a universally positionable device for fixing relative angular orientation between a ball and a socket, the method comprising:

- 5 mechanically fixing a substantially globular structure of sturdy but compressible material
around a first end of a rigid mechanical structure having first and second ends;
 adapting the second end of the rigid mechanical structure to accept a mechanical
attachment thereto; and
 forming an indentation within an interior surface of at least one of two opposing socket
10 surfaces and disposing the two opposing socket surfaces about the globular structure, the two
opposing socket surfaces adapted for disposing in a first relatively rotational relationship thereto
and a second angularly fixed relationship thereto, wherein the compressible material is
compressed between the two opposing socket surfaces.

Claim 59 (pending, previously presented): An interlocking ball and socket joint comprising:

- 15 a coupling member partially formed of a resilient deformable material in a substantially
unbroken globular shape having an unconstrained diameter and substantially encompassing a
mechanical core adapted to accept a mechanical attachment outside the unconstrained diameter;
 a socket having first substantially opposing interior surfaces shaped to substantially
conform to the substantially globular portion of the coupling member, one of the interior
surfaces being a smooth concave surfaces having an indentation formed therein;
20 an adjustable clamp disposed subsequently in a plurality of different adjustment
relationships to the opposing concave socket surfaces,
 one adjustment of the clamp conforming the first opposing interior socket
surfaces in a relatively rotational relationship with the coupling member, wherein the opposing
interior socket surfaces partially encompass a spherical volume having substantially the same
25 diameter as the globular portion of the coupling member, whereby the socket and the coupling
member are relatively rotatable, and
 another adjustment of the clamp conforming the first opposing interior socket
surfaces in an interlocking relationship with the coupling member, wherein the opposing interior
socket surfaces partially encompass opposing spherical segments of the coupling member that
30 are spaced apart a distance that, combined with a height of each of the opposing spherical

segments, is less than the unconstrained diameter of the globular portion of the coupling member, whereby the socket deforms the coupling member and interlocks the socket and the coupling member in a relative angular orientation.

Claim 60 (previously cancelled)

- 5 Claim 61 (pending, previously once amended): An interlocking ball and socket joint comprising:
a coupling member having a radially compressible material formed in a substantially
unbroken spherical shape having an uncompressed outer diameter and formed around a
relatively rigid core having a projection extending outside of the unconstrained diameter;
a socket adapted to accept a mechanical attachment and comprising two or more
10 substantially rigid socket members each having substantially smooth concave surfaces
coextending with a portion of the uncompressed outer diameter of the spherical portion of the
coupling member, one of the smooth concave surfaces having an indentation formed therein; and
an adjustable clamp mechanically attached to the socket members and subsequently
positioning the socket members in a plurality of opposing relationships to one another,
15 one adjustment of the clamp positioning the socket members in a opposing
relationship on either side of the coupling member and relatively rotatable thereto, and
another adjustment of the clamp positioning the socket members in a opposing
relationship on either side of the coupling member and compressing the radially compressible
material thereof, whereby the socket members substantially compress the coupling member and
20 interlock the socket members with the coupling member in a relative angular orientation.

Claim 62 (new): The interlocking ball and socket joint of claim 43 wherein the coupling member is substantially centered on a first locus; and

- further comprising a split arm assembly comprising the socket, the split arm assembly
forming a bifurcated arm assembly having an apex at a second locus spaced apart from the first
25 locus and having the opposing concave interior surfaces of the socket substantially centered on
the first locus and the opposing concave interior surfaces being engaged about the coupling
member.

Claim 63 (new): An interlocking ball and socket joint comprising:

a coupling member partially formed of a resilient deformable material in a substantially smooth spherical shape having an unconstrained diameter substantially centered on a first locus and substantially encompassing a substantially rigid mechanical core that is structured to accept
5 a mechanical attachment outside the unconstrained diameter;

a split arm assembly forming a bifurcated arm assembly having an apex at a second locus spaced apart from the first locus and having a socket formed of substantially smooth and rigid opposing concave interior surfaces centered on the first locus, the opposing concave interior surfaces being shaped to substantially conform to the substantially spherical portion of the
10 coupling member and being engaged about the coupling member; and

an adjustable clamp coupled to the split arm assembly, the adjustable clamp being disposed subsequently in a plurality of different adjustment relationships to the opposing concave socket surfaces,

one adjustment of the clamp conforming the first opposing interior socket
15 surfaces in a relatively rotational relationship with the coupling member, wherein the opposing interior socket surfaces partially encompass a spherical volume having substantially the same diameter as the substantially spherical portion of the coupling member, whereby the socket and the coupling member are relatively rotatable, and

another adjustment of the clamp conforming the first opposing interior socket
20 surfaces in an interlocking relationship with the coupling member, wherein the opposing interior socket surfaces partially encompass opposing spherical segments of the coupling member that are spaced apart a distance that is less than the unconstrained diameter of the substantially spherical portion of the coupling member, whereby the socket deforms the coupling member and interlocks the socket and the coupling member in a relative angular orientation.

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